

11

said hinge unit having a rotating axis for rotating said upper unit in relation to said lower unit and a folding/unfolding axis perpendicular to the rotating axis for folding/unfolding said upper unit in relation to said lower unit, said wiring device comprising:

- rotative direction wound portion having a first central axis corresponding to the rotating axis for being wound with a first part of a flexible printed cable which electrically connects said upper unit to said lower unit;
- a folding/unfolding direction wound portion having a second central axis corresponding to the folding/unfolding axis for being wound with a second part of said flexible printed cable; and
- a cable fixing portion for fixing said flexible printed cable to said hinge unit.

2. A wiring device as claimed in claim 1, wherein said rotative direction wound portion has a pair of winding guides for guiding said first part of said flexible printed cable; and wherein

- said folding/unfolding direction wound portion has another pair of winding guides for guiding said second part of said flexible printed cable.

3. A wiring device as claimed in claim 1, wherein said hinge unit has a folding/unfolding shaft with a thinner part thinner than the other part thereof to be used for said folding/unfolding direction wound portion.

4. A wiring device as claimed in claim 1, wherein said cable fixing portion comprises:

- a holding member for holding a third part of said flexible printed cable; and
- a fixing member for fixing said holding member to said hinge unit.

5. A wiring device as claimed in claim 4, wherein said holding member keeps said third part of said flexible printed cable from coming in contact with a moving part of said hinge unit.

6. A wiring device for use in a folding portable device including an upper unit, a lower unit and a hinge unit mechanically connecting said upper unit to said lower unit, said hinge unit having a rotating axis for rotating said upper unit in relation to said lower unit and a folding/unfolding axis perpendicular to the rotating axis for folding/unfolding said upper unit in relation to said lower unit, said wiring device comprising:

- a rotative direction wound portion having a first central axis corresponding to the rotating axis for being wound with a first part of a flexible printed cable which electrically connects said upper unit to said lower unit;
- a folding/unfolding direction wound portion having a second central axis corresponding to the folding/unfolding axis for being wound with a second part of said flexible printed cable; and
- a cable fixing portion for fixing a third part between said first part and said second part of said flexible printed cable.

7. A wiring device as claimed in claim 6, wherein said hinge portion comprises a folding/unfolding shaft having a pair of end portions; and wherein

- said folding/unfolding direction wound portion is provided at each of said end portions of said folding/unfolding shaft.

8. A wiring device as claimed in claim 7, further comprising said flexible printed cable, wherein

- said second portion of said flexible printed cable is wound around said folding/unfolding direction wound portion at either of said end portions of said folding/unfolding shaft.

12

9. A wiring device as claimed in claim 8, wherein said flexible printed cable has a spread shape so that said first part thereof is wound around said rotative direction wound portion, and that said second part thereof is wound around said folding/unfolding direction wound portion, and that said third part is extended from said rotative wound portion to said folding/unfolding direction wound portion through said cable fixing portion.

10. A wiring device as claimed in claim 7, further comprising said flexible printed cable having a fourth part continuing from said third part thereof, wherein

- said second part of said flexible printed cable is wound around said folding/unfolding direction wound portion at one of said end portions of said folding/unfolding shaft while said fourth part of said flexible printed cable is wound around said folding/unfolding direction wound portion at the other of said end portions of said folding/unfolding shaft.

11. A wiring device as claimed in claim 6, wherein said cable fixing portion comprises:

- a holding member for holding said third part of said flexible printed cable; and
- a fixing member for fixing said holding member to said hinge unit.

12. A wiring device as claimed in claim 11, wherein said cable holding portion has a T shape, and wherein

- said fixing member fixes said holding member to said hinge unit so that a horizontal bar of the T shape corresponds to the folding/unfolding axis and that a vertical bar of the T shape corresponds to the rotating axis.

13. A wiring device as claimed in claim 6, wherein said rotative direction wound portion has a pair of winding guides for guiding said first part of said flexible printed cable; and

- said folding/unfolding axis winding portion has another pair of winding guides for guiding said second part of said flexible printed cable.

14. A wiring device as claimed in claim 6, wherein said hinge unit has a folding/unfolding shaft with a central axis corresponding to the folding/unfolding axis, said folding/unfolding shaft having a thinner part thinner than the other part thereof to be used for said folding/unfolding direction wound portion.

15. A wiring method for wiring a flexible printed cable between an upper unit and a lower unit of a folding portable device, said upper unit and said lower unit mechanically connected to each other by a hinge unit having a rotating axis for rotating said upper unit in relation to said lower unit and a folding/unfolding axis perpendicular to the rotating axis for folding/unfolding said upper unit in relation to said lower unit, comprising the steps of

- winding a first winding part of said flexible printed cable around a rotative direction wound portion having a first central axis corresponding to the rotating axis;
- winding a second winding part, of said flexible printed cable around a folding/unfolding direction wound portion having a second central axis corresponding to the folding/unfolding axis, and
- fixing a predetermined part of said flexible printed cable that lies between the first and second winding parts to said hinge unit using a cable fixing portion suitable for attachment to the hinge unit.

16. A folding portable device including an upper unit, a lower unit and a hinge unit for mechanically connecting said upper unit to said lower unit, said hinge unit having a rotating axis for rotating said upper unit in relation to said